Ruffed Grouse Drumming Survey
2001

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Abstract

Statewide ruffed grouse populations decreased 23% between 2000 and 2001, based on the number of drumming grouse heard during roadside surveys. Changes in breeding grouse populations varied by region, but the statewide mean number of drums/stop did change significantly (P= 0.002) from 2000 to 2001. Drummer densities on the Sandhill Wildlife Area and the Stone Lake Experimental Area in Oneida County decreased from the levels of 2000.

Methods

Statewide

Counts of drumming grouse heard along roadsides were conducted on 115 transects throughout the state in 2001. This roadside survey has been conducted annually since 1964 by DNR wildlife managers, wildlife technicians, foresters, law enforcement personnel, USFS staff, and Ruffed Grouse Society volunteers to determine grouse population trends throughout Wisconsin. A new 10-stop survey on 117 randomly located transects was initiated in 1994 and continued in 2001. One transect which had been accidentally left out of the original survey design was added in Waupaca county in 1999, bringing the statewide total to 118. This year marked the eighth year that the "new" ruffed grouse surveys were run. As per the change over plan, no "old" drumming routes were run since 1996. Also, "new" routes which had counts of zero for the first three years were not to be run for three years. After that three year period, they were to be run again to confirm that they indeed were still zero. Most of these “zero” routes were run again in 2000, those that weren’t were run this year. Procedures for the “new” routes were similar to the earlier survey protocols except for one count instead of two and 10 stops instead of 15. Survey data were entered into the DNRVAX computer system and summarized using the Statistical Analysis System (SAS).

Research Census Areas

DNR research personnel have conducted a census of drummers on Sandhill Wildlife Area and Stone Lake since 1968. This survey has provided comparative statistics on population trends and an estimate of drummer density. Searches for males were conducted during favorable weather between 1 April and 10 May. The census on the Sandhill Wildlife Area encompassed 2,020 acres of grouse habitat in the area open to hunting and 1,300 acres within the unhunted portion of the area. The census on the Stone Lake Experimental Area in Oneida County encompassed 3,310 acres of grouse habitat.

Results

Statewide

Responses were received from wildlife managers, wildlife technicians, and other cooperators that helped conduct the survey on 115 survey transects in 2001. This is three less than the total number of transects (118) for the state.

Statewide, ruffed grouse populations declined in Wisconsin between 2000 and 2001 (Table 1). Populations declined within three of the four regions of the state (Fig. 1). Overall density

decreases were significant (P= 0.002) during 2000-2001. Transects completed in both 2000 and 2001 were compared to detect population changes. Transects were considered to have changed from last year if the change was greater than two drums per transect. The number of transects with decreased drumming outnumbered by 45 to 23 those that showed increases, with 47 transects unchanged. Overall breeding grouse populations decreased from 2000 levels. It appears that current populations have started to decrease in the state (Fig. 2). Wisconsin's ruffed grouse population has exhibited an upward trend for the past several years and may have peaked in 1999. Historic cyclic declines have generally occurred in Wisconsin after declines in regions located west of our state. Minnesota's grouse drumming numbers declined 40% in 2001 (Bill Berg, personal comm.) Since declines in those areas are now apparent, it is probable that grouse numbers are already on the decline in Wisconsin.

Survey conditions for 2001 were similar to 2000. Survey observers rated the overall conditions as "excellent" on 52% of the transects, while 59% rated the overall conditions as "excellent" in 2000. The percent of observers rating the conditions as "excellent" was still below the highest level of 68% recorded in 1998. Survey conditions do influence drumming activity and may cause grouse numbers to be over or under estimated.

Research Census Areas

Grouse numbers on both of the research census areas showed declines in 2001 (Table 2). The Sandhill Wildlife Area had an overall decrease of 41% (102 birds in 2000 vs. 60 in 2001). The hunted portion of the wildlife area (2,020 acres) decreased by 22 birds in 2001 (30 vs. 52). The unhunted portion of the wildlife area (1,300 acres) went from 50 birds in 2000 to 30 in 2001. The Stone Lake census area had a decrease of 5% from 2000 to 2001 (87 birds vs. 83 birds). The survey technique used to measure grouse densities on both of these areas is different than that used on the statewide survey. Any comparison of these results to statewide totals should be done cautiously.

Table 1. *Ruffed Grouse drumming results 2000-2001, drums per stop (routes run), % change, and number of routes with a change of greater than 2 drums per route from 2000 levels.*

Region	Drums/Stop 2000 (routes run)	Drums/Stop 2001 (routes run)	% Change	# of Decreasing Routes	# of Increasing Routes	# of Routes with No Change
Central	1.43 (26)	1.03 (26)	-28%	15	5	6
Northern	2.00 (43)	1.55 (43)	-23%	23	10	10
Southeast	0.07 (27)	0.09 (29)	29%	2	2	25
Southwest	0.74 (17)	0.68 (17)	-8%	5	6	6
Statewide	**1.22 (113)**	**0.94 (115)**	**-23%**	**45**	**23**	**47**

Table 2. *Drummer densities on the DNR research census areas, 2000-2001.*

Area	No. of Drummers (No./100A) 2000	2001
Sandhill Hunted (2,020 Acres)	52 (2.6)	30 (1.5)
Sandhill Unhunted (1,300 Acres)	50 (3.8)	30 (2.3)
Stone Lake Exp. Area (3,310 Acres)	87 (2.6)	83 (2.5)

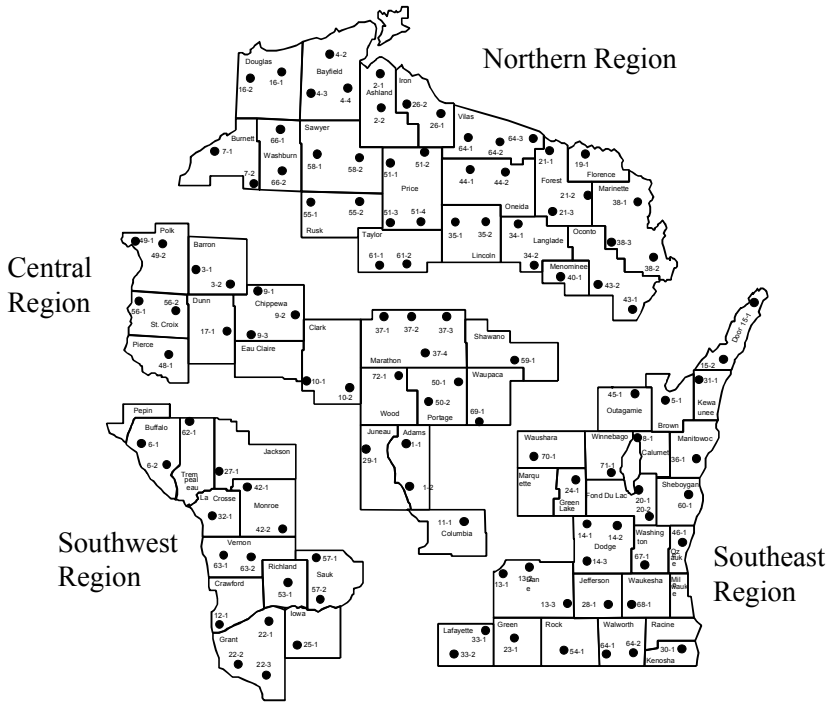

Figure 1. *Ruffed grouse drumming regions with transect starting points.*

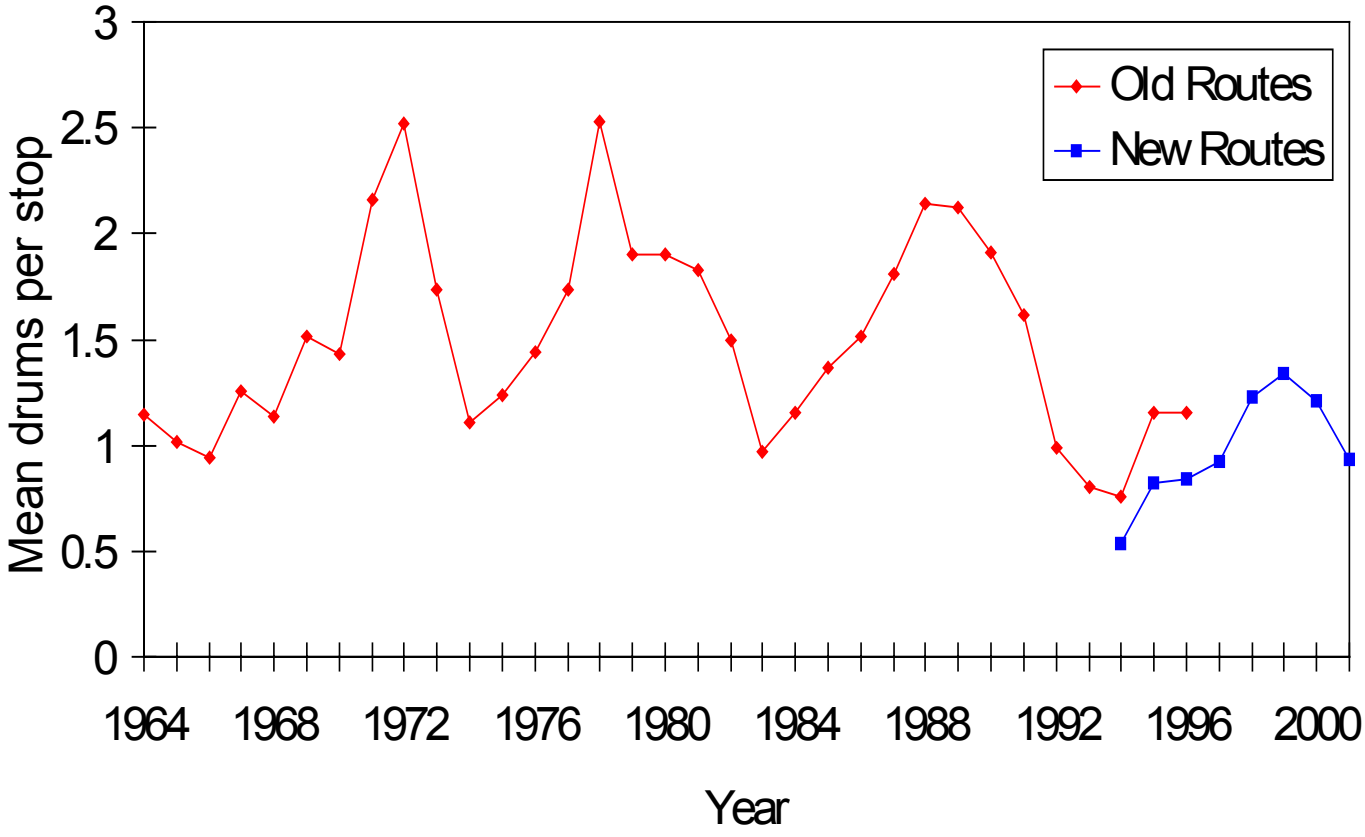

Figure 2. *Mean number of drums/stop on ruffed grouse drumming routes, 1964-2001.*